The present invention is directed to composite column and beam framing members for use in building construction. More particularly, the present invention is directed to a composite column or beam and a method for its manufacture that has superior insulating and fire/heat resistance characteristics.

Please amend the paragraph beginning on line 14 of page 1 as follows:

It is well known that the steel beams and columns that are used as the structural framework of modern buildings are not fireproof. Indeed, when exposed to heat and fire, steel beams and columns will expand, warp and rapidly lose strength. To protect against this type of extreme structural damage as well as the ongoing effects of weather, modern building codes often require that a coating of protective material be applied to the exterior surface of a building's steel framework. These protective materials are typically classified as either fire-resistant materials (i.e. mineral wool, fiberglass or the like) or heat sink materials (e.g. gypsum board or cement plasters). However, additional types of thermal or weather insulation may also be thought of as protective materials. Either class of fire-protective material can, for a reasonable period of time (e.g., one to three hours), be designed to delay the heat from a fire from affecting the steel framework.

Please amend the paragraph beginning on line 21 of page 3 as follows:

Prior to being secured together, reinforcing bars are positioned throughout the interior channel as required by the user. Spacers or risers may also be positioned along the surface of the interior channel in order to maintain the reinforcing bars a predetermined distance from the interior surface of the channel. Additionally, the

interior channel of at least one of the shell members may be coated with protective materials (i.e., insulation). The use of a protective material is most preferred when at least a portion of framing members of the present invention are exposed to the exterior of a building. Under such conditions, the use of a protective material on the internal surface(s) of the framing member (particularly those having exposed external surfaces) provides the framing member with an additional defense against condensation, corrosion, fire and heat.

Please amend the paragraph beginning on line 10 of page 4 as follows:

Preferably, the composite structural member is erected (in the case of a column) or positioned (in the case of a beam) at the work site and filled with concrete according to the needs or requirements of the user.

Please amend the paragraph beginning on line 20 of page 4 as follows:

In a second step, at least one spacing bar (e.g., a steel reinforcing rod) is secured along the interior surface of each shell.

Please add a new paragraph before line 22 of page 4 as follows:

In a third step, a protective material (i.e., thermal/weather insulation) is applied into the interior channel of at least one of the shells following the insertion of the at least one spacing bar into the interior channel of each shell.

Please amend the paragraph beginning line 22 of page 4 as follows:

a8

In a fourth step, the first and second shells are secured together at least partially along their respective substantially open sides so that the interior channels of the first and second shell members cooperate to define either a hollow column or open beam having an interior volume.

Please add a new paragraph after line 2 of page 5 as follows:

a9

In a fifth step, at least one reinforcing member is installed within the interior volume formed by the shells.

Please amend the paragraph beginning on line 3 of page 5 as follows:

a10

In a sixth step, the interior volume of the column or beam is filled with a filler material (e.g., concrete).

Please delete the paragraph beginning on line 5 of page 5.

Please amend the paragraph beginning on line 13 of page 7 as follows:

a11

Still referring to Figures 1, 2 and 3, at least one reinforcing member 24 is secured within the interior channels 36 of each shell 16, 18. Preferably, the reinforcing member 24 is a steel reinforcing rod or the like. The reinforcing member 24 is preferably welded onto spacing bars 27 that are welded to the base 30 of each shell 16, 18. Alternatively, the reinforcing members may be secured or positioned upon a spacer 40 that is secured to the base 30 and extends upwardly from the base 30 a predetermined distance.

Please amend the paragraph beginning on line 20 of page 7 as follows:

Following installation of the spacing bars 27, a coating of protective material 26 is applied to the surface 37 of the interior channel 36 of at least one of the shells 16, 18. The use of a protective material is most preferred when at least a portion of framing members of the present invention are exposed to the exterior of a building. Under such conditions, the use of a protective material on the internal surface(s) of the framing member (particularly those having exposed external surfaces) provides the framing member with an additional defense against condensation, corrosion, fire and heat.

Please amend the paragraph beginning on line 6 of page 8 as follows:

Preferably, the protective material 26 is a known insulation material, such as weather insulation, a fire-resistant material (e.g., mineral wool or fiberglass), a heat sink material (e.g., gypsum board or cement plasters) or other type of thermal insulation material. Notably, coating the surface 37 of the interior channel 36 of at least one of the shells 16, 18 with the protective material 26 during the fabrication of the column 12 removes or limits the need to apply insulation to the column 12 in the field and provides the column 12 with superior insulative or fire/heat resistance characteristics.

Please amend the paragraph beginning on line 15 of page 8 as follows:

Still referring to Figures 1, 2 and 3, preferably, the shells 16, 18 are secured together along their respective flanges 38 by welding or similar process. Securing of the shells along the open sides of the interior channel 36 provides the column 12 with

a generally open, or hollow, interior that defines an interior volume 39. Following erection of the column 12 at a construction site, at least one reinforcing member 24 may be disposed into the interior volume 39 formed by the shells 16, 18. Finally, the interior volume 39 is filled with a filler material 23 that provides increased structural characteristics to the column. Preferably, the filler material 23 is concrete. However, other types of filler materials 23 may also be used according to the needs of the user.

Please amend the paragraph beginning on line 1 of page 9 as follows:

Referring now to Figures 1, 4 and 5, there is shown a beam 14 framing member constructed in accordance with the present invention. Preferably, the beam 14 includes a first 20 and a second shell 22 member. Each shell 20, 22 has a generally L-shaped appearance that is defined by a base 50 having a first flange 52 that extends upwardly from the base 50 and a sidewall 54 having a flange 56 that extends inwardly from the sidewall 54. The base 50 and sidewall 54 of each shell 20, 22 form an interior channel 59. Similar to the column 12 discussed above, at least one spacing bar 27 is secured to the interior surface 60 of the interior channel 59 of each shell 20, 22. Thereafter, a coating of protective material 26 (as discussed above) is applied to the interior surface 60 of at least one of the shells 20, 22. The shells 20, 22 of the beam 14 are preferably secured together by welding the flanges 56 of the sidewalls 54 of the shells 20, 22.

Please amend the paragraph beginning on line 14 of page 9 as follows:

Welding of the shells 20, 22 provides an elongated beam 14 framing member having a generally U-shaped appearance having an open interior defining an interior

volume 62 that is accessible though an open side 64. Following erection of the beam 14 at a construction site, the interior volume 62 of the beam 14 may be disposed with reinforcing members 24 and then filled with a filler material 23 (as discussed above) that provides increased structural characteristics to the beam 14.

Please amend the paragraph beginning on line 20 of page 9 as follows:

Referring now to Figures 6 and 7, there is shown an alternative embodiment of a beam 14' framing member constructed in accordance with the present invention. Preferably, the beam 14' includes a first 20' and a second shell 22' member. Each shell 20', 22' has a generally L-shaped appearance that is defined by a base 70, 71 having a first flange 72 that extends upwardly from the base 70 and a sidewall 74 having a flange 76 that extends inwardly from the sidewall 74. The base 70 and sidewall 74 of each shell 20', 22' form an interior channel 77. The base 70 of the first shell 20' is preferably wider than the base 71 of the second shell 22' such that a floor or roof system 110 may be adapted to abut against the first shell 20' while being supported by the beam 14'

Please amend the paragraph beginning on line 8 of page 10 as follows:

At least one spacing bar 27 is secured to the surface 79 of the base 70 of each shell 20', 22'. Alternatively, spacers 40 are provided along the surface 79 of at least one shell 20', 22' to support the span of the at least one reinforcing member 24 from one shell 20' to the other shell 22'. Following insertion of the spacing bars 27, a coating of protective material 26 (as discussed above) is applied to the interior surface of at least one of the shells 20', 22'. The shells 20', 22' of the beam 14' are then

a 18 cont

preferably secured by welding together the flanges 76 of the sidewalls 74 of the shells 20', 22'.

Please amend the paragraph beginning on line 16 of page 10 as follows:

a 19

Welding of the shells 20', 22' provides an elongated beam 14' framing member having a generally U-shaped appearance having an open interior defining an interior volume 82 that is accessible though an open side 84. Following erection of the beam 14' at a construction site, the interior volume 82 of the beam 14' may be disposed with reinforcing members 24 and then filled with a filler material 23 (as discussed above) that provides increased structural characteristics to the beam 14'.

Please amend the paragraph beginning on line 7 of page 11 as follows:

a 20

In a second step 94, at least one spacing bar 27 (e.g., a steel reinforcing rod) is positioned and secured to the interior surface of at least one of the shell members.

Please amend the paragraph beginning on line 10 of page 11 as follows:

a 21

In a third step 96, a protective material is applied into the interior channel of each shell. As discussed above, the protective material 26 is preferably a known insulation material, such as weather insulation material, a fire-resistant material (e.g., mineral wool or fiberglass), a heat sink material (e.g., gypsum board or cement plasters) or other type of thermal insulation material.

Please amend the paragraph beginning on line 20 of page 11 as follows: